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ABSTRACT

This study developed and experimentally evaluated a series of structured interaction materials and group social models for promoting career information-seeking and information-processing behaviors by high school students. Personality characteristics (introversion-extroversion) of subjects were assessed to determine how these factors influence modeling and structured interaction materials. Eleventh grade male and female students enrolled in three vocational experience classes were randomly assigned to treatment and control groups (n=80). Three experimental treatments were administered: (1) structured interaction materials; (2) group social modeling; and (3) a combination of group social modeling and subject participation. Study results were mixed. For males, none of the experimental treatments showed significantly positive main effects, while for females the structured interaction plus modeling treatment did show significantly positive effects on two of the dependent variables. The data relevant to interactions between personality characteristics and treatment procedures showed a tendency for introverted individuals to learn better than extroverted individuals irrespective of the treatment in which the subject was involved. Recommendations for further study and action are presented by the author. (Author/PC)

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PROMOTING ADOLESCENT CAREER INFORMATION-SEEKING AND INFORMATION-PROCESSING BEHAVIORS WITH GROUP SOCIAL MODELS AND STRUCTURED GROUP COUNSELING

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SUMMARY

One of the major goals of counseling is to help students learn how to make good decisions (Gelatt, 1962; Katz, 1963; Krumboltz, 1966). For many students, this decision-making process includes considering a number of alternative courses of action, searching for relevant information about the possible outcomes of each alternative, and evaluating the information obtained in light of personal value judgments in order to arrive at the most worthwhile solution.

A critical decision for most students is the choice of an occupation. It will have great bearing on many, if not most, of their future activities. All too often, however, students reach vocational decisions on the basis of wholly inaccurate information obtained from unreliable sources. Counselors are confronted with far too many "high risk" students whose school and personal background information does not match well with his career plans (Cooley, 1964).

Decision theorists (Edwards, 1961; Cronbach & Gleser, 1965) and counseling researchers (Clark, Gelatt & Levine, 1965; Mehrens, 1966; Thoresen & Mehrens, 1967) have pointed out that investigating the ways in which individuals can be assisted to use relevant information remains a crucial problem. This study generated a sequence of procedures whereby students could learn to identify, gather and process information pertaining to their own plans. In effect the question was: What conditions would be most helpful for individuals in acquiring "as effective strategy for analyzing, organizing and synthesizing information in order

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to make good decisions" (Clark, Gelatt & Levine, 1965, p. 41).

This study developed and experimentally evaluated a series of structured interaction materials and group social models for promoting career information-seeking and information-processing behaviors by high school students. Personality characteristics (introversion-extroversion) of subjects were assessed to determine how these factors influence modeling and structured interaction materials.

The objectives for the study were:

1. Explore competing treatments for assisting students to identify plans, gather relevant and reliable information, and consider tentative choices which will enable them to make use of these decision-making skills outside the counseling treatment setting.

2. Develop and assess the relative efficacy of: (a) a video-presented social modeling procedure, (b) a structured interaction materials technique, and (c) a treatment which combines a modeling procedure and participation of the subjects.

3. Explore possible interaction effects between treatments and subjects when they are assessed and classified according to introversion-extroversion.

4. Generate a body of data which will permit the stating and testing of subsequent research hypotheses thus contributing to the development of counseling theory.

Eleventh grade students enrolled in vocational experience classes in a large suburban high school (actually three schools on one campus) were invited to participate in the project. Students indicating an interest in counseling were contacted and assessed as to their behavior on a variety of dependent variables. Criteria included knowledge of specific ways to obtain and process information in simulated career decision situations, attitudes toward decision making and frequency of information seeking behaviors.

Subjects were randomly assigned to treatment and control groups, however, the assignment was done by sex. Consequently treatment groups were either all male or all female with male groups led by male counselors and female groups led by female counselors. Three experimental treatments were administered: (1) structured interaction materials, (2) group social modeling, and (3) a third treatment which combined group social modeling with participation of subjects. In addition a wait control was employed. Planned stimulus materials were prepared and used in five group counseling sessions with five subjects per counseling group. Five video presented group social models were developed and used in five sessions paralleling the content of the structured interaction materials. The sequence as well as content of these first two treatments was followed in the modeling-participation treatment.

The results obtained in this study were mixed. For males none of the experimental treatments showed significantly positive main effects, while for females the structured interaction plus modeling treatment did show significant positive effects on two of the dependent variables. The data relevant to interactions between personality characteristics and treatment procedures showed a tendency for introverted individuals to learn better than extroverted individuals irrespective of the treatment in which the subject was involved.

The recommendations for further action include more detailed attention to the personality characteristics versus treatment procedure interaction, possibly using the procedures described in this project with introverted individuals, with further investigation needed to determine the procedures which would be most effective with extroverted individuals. In addition, a final recommendation is that for groups of females the

structured interaction plus modeling treatment can be expected to provide significant positive main effects.

CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

There has been a dearth of experimental studies designed to test the effectiveness of competing treatments for promoting career exploration in adolescents. The searching, analyzing and processing components of career decision-making should be examined in the context of what counseling procedure can be most helpful to which type of student. In other words, what specific alterations in a particular student's environment will be most influential in his acquisition and performance of career decision-making behaviors? This study investigated the relative effects of counseling procedures which contrasted observational and direct experiences on the career exploration of high school students.

Review of Research

Career Decision-Making

A central question for career decision-making research involves the problem of assisting individuals in gathering, analyzing and processing relevant career data.

Some recent experiments with counseling treatments (Krumboltz & Thoresen, 1964; Krumboltz & Schroeder, 1965) have dealt with the objectives of promoting student information-seeking. They explored the relative effectiveness of two counseling procedures designed to stimulate students in the direction of exploring educational and vocational opportunities. "Reinforcement counseling" and "model-reinforcement counseling" demonstrated more effectiveness than no counseling and differentiated

among subjects classified by sex. The dependent variable was the frequency and variety of information-seeking behavior. In addition Krumboltz & Thoresen (1964) incorporated a pseudo-counseling control group and contrasted the relative effectiveness of group and individual counseling procedures.

In both these studies, however, the specific contribution of the modeling procedure was confounded by systematic verbal and non-verbal posotive reinforcement of treatment counselors during treatment sessions. Additional studies are needed which will look at the effect of providing a sequence of observational experiences with no attempt by the treatment counselor to use reinforcing procedures. This will permit investigation of the exclusive effect of an observational experience on student career decision-making behaviors.

Other recent studies (Krumboltz & Sheppard, 1966; Jones, 1966; Johnson, 1967; Baker, 1967; Krumboltz & Nelson, 1968; Krumboltz & Bergland, 1968; Krumboltz & Southern, 1968; Krumboltz & Hamilton, 1968) have attempted to influence student career information-seeking through the provision of simulated vocational problem-solving experiences. While some of the findings from these studies have been encouraging, results may have been limited by the fact that problem-solving kits typically were administered in standard classroom settings mixing control and experimental subjects together. What is more the untested assumption was made that the students already possessed the requisite behaviors for seeking occupational information. Career information-seeking, in any event, is just <u>one</u> of the important steps in the decision-making process (Edwards, 1961; Gelatt, 1962; Thoresen & Mehrens, 1967). What actual use these students made of the information obtained

was not explored. Hence, the question: Why encourage information-seeking behavior about vocations if students fail to use such information effectively in decision-making?

Dilley (1965) designed a test of decision-making ability for high school students reasoning that vocational maturity should be positively correlated to decision-making ability. Vocationally mature persons, he maintained, can accept responsibility, concern themselves with choices, search for specific information and make specific plans (Super, 1957; Tiedeman, 1961). A basic assumption in this study and in those cited above is that students already have the requisite behaviors for anticipating outcomes, assigning probability and desirability values, weighting them and making carefully planned choices. This assumption, characteristic of decision theories and theories of vocational development, remains untested.

The present study investigated one aspect of vocational development, i.e., the decision-making process. Competing counseling procedures will be designed to help students learn the appropriate behaviors for making good decisions (Gelatt, 1962), namely how to: generate alternatives, find the probability that they will be successful in each alternative, evaluate this probability information in view of what they perceive their own chances of success are, obtain information about the probable outcome of each alternative, think about their preferences among these outcomes, and finally make tentative choices in view of all these factors.

Theories of Vocational Development

Theories of vocational development are fragmentary and not explanatory in a specific sense as to how the individual makes sequential

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decisions regarding vocational development. Current theories (Ginzberg, et al., 1951; Super, et al., 1957; Roe, 1956; Tiedeman, 1961; Holland, 1964) have generated research largely dealing with extensive longitudinal and cross-sectional studies of the various human characteristics related to educational, vocational and personal development. Holland (1964) reviewed a number of these programs including longitudinal studies such as Super's work on vocational development at Columbia University (e.g., Super, 1960; Super, et al., 1963) and Tiedeman's studies of career development at Harvard University (e.g., Tiedeman & O'Hara, 1963). He also reviewed those using more of a cross-sectional research approach including the project TALENT study of American high school students (e.g., Flanagan, et al., 1962; 1964), Roe's efforts to correlate personality characteristics with occupational choice (e.g., Roe, 1956; 1964), and Holland's own research on occupational behavior supported by the National Merit Scholarship Corporation (e.g., 1966).

These theories of career development have not explained how an individual actually behaves in realistic occupational situations. In his critique of these programs, Holland remarked that "the goals of all major research programs are unnecessarily ambiguous and they even tend to vacillate from time to time" (p. 277), and that "most of the empirical research has been done with atypical samples (eminent scientists, National Merit finalists and Harvard students), or with samples so small that actual predictive studies of choice or career pattern are not feasible (e.g., Super's career pattern study)" (p. 278, 1964). An evaluation (Carkhuff, et al., 1967) of the theory and research produced by the same programs Holland reviewed led to the conclusion:

> There does not appear to be any theory of vocational choice that meets the inductive-deductive model of

> theory-building....For the most part, preconceived theoretical structures, in that they are not modified by empirical results, promote circularity of formulation and inhibit our efforts at theoretical breakthrough. (p. 343)

There is a definite need for the specific facets of the career decision-making process to be operationalized in terms of actual student behaviors. This will permit the effects of competing counseling procedures on student career exploration to be experimentally tested. Moreover, we no longer can assume that a single procedure is equally effective for all students under any set of circumstances (Thoresen, 1966b). Hence, the present study will explore the differential effects of competing treatments on the career decision-making behaviors of adolescents classified according to their perceptual orientation.

Theories of Social Behavior

Vocational development theorists (Ginzberg, et al., 1951; Super, et al., 1957; Tiedeman, 1961) propose that development occurs in a series of stages. The high school adolescent, for example, is generally considered to be in an exploratory stage. Recently counseling researchers have begun investigating how adolescents during this stage actually behave and what counseling techniques might be most useful in stimulating career exploration. The experimental hypotheses tested in virtually all of these studies have been generated from current theories of social behavior. With regard to the learning of human behaviors, these theories have emphasized two principles: (1) Acquisition of behaviors frequently takes place in the absence of external reinforcement being directly administered to the organism. Considerable observational learning occurs, for example, when a child first experiences his environment and is making few overt responses. (2) Performance of behaviors

is guided by reinforcement. Reinforcement of operant responses increases the probability that the response will occur again under related conditions.

In conceptualizing the determinants of human behavior, social behavior theories differ fundamentally from trait theories of personality change. Trait theories assume that stable response predispositions exist in persons and produce generalized and enduring effects on behavior. Frank Parsons (1909), considered the early founder of vocational guidance, promoted the following strategy based on trait assumptions:

> In the wise choice of a vocation there are three broad factors: (1) a clear understanding of yourself, your aptitudes, abilities, interests, ambitions, resources, limitations and their causes; (2) a knowledge of the requirements and conditions of success, advantages, compensations, opportunities, and prospects in different lines of work; (3) true reasoning on the relations of these two groups of facts. (p. 5)

While trait theorists of personality attempt to describe and classify environments in their natural state, social behavior theorists seek to alter human behavior by promoting the acquisition and performance of certain response patterns. Social behavior theorists look for the determinants of behavior in the conditions that covary with the occurrence, maintenance and change of the behavior. Emphasis is placed on the discovery of independent variables or stimulus changes that produce and maintain modifications in behavior, as well as on finding order and regularity in the form of general rules that relate environmental changes to behavior changes. This focus on the observable causes of behavior means that major attention is given to specific experiences which change and regulate behavior (Mischel, 1968).

Observational Learning

Learning can take place by observing the experiences of others (Miller & Dollard, 1941; Bandura & Walters, 1963). Learning which occurs in the absence of immediate reinforcing stimuli (S^{R+}) is sometimes called "vicarious," sometimes "perceptual," sometimes "cognitive," and sometimes "observational" or "modeling" (Mischel, 1968). All these labels refer to someone acquiring new behavior through observation without direct, reinforcing stimuli as a consequence. Behaviors may be learned by observing what others, social models, do or by attending to events in the physical environment. Symbols such as words and pictures may also function as models. Considerable human learning is mediated by perceptual-cognitive processes and depends on observation of environmental associations rather than on reinforcing consequences for the person's behavior.

Model Characteristics

The characteristics of a model influence the degree to which behavior is acquired by observers. Evidence exists of a positive relationship between the rewardingness and power of social agents and their effectiveness as models (e.g., Bandura & Huston, 1961; Bandura, Ross & Ross, 1963; Mischel & Grusec, 1966). Other research has suggested that social models which are perceived as prestigeful (Asch, 1958; Maccoby, 1959; Mussen, 1959; Krumboltz, Varenhorst & Thoresen, 1967), competent (Mausner & Bloch, 1957), and high in status (Lefkowitz, Blake & Mouton, 1955) results in increased observational learning. A nurturant relationship between the observer and the model who demonstrates the behavior also seems to enhance observational learning. Nurturance here involves positive reinforcement of dependency, the overt eliciting of

responses, and the conditioning of positive emotional responses to the nurturant adult (Bandura & Walters, 1963).

Furthermore, people adopt in varying degree the behaviors of more than one model, even when one is clearly more powerful and rewarding than the other (Bandura, Ross & Ross, 1961). Thus the observer demonstrates a novel patterning of the behaviors from many observed events and does not simply emulate, in carbon copy fashion, the behavior of a single model. Since people observe a great variety of behavioral possibilities through exposure to many models, they can adopt almost limitless combinations of behavior.

Observer Characteristics

The degree to which the observer attends to the model influences how accurately he learns the model's behavior. Attention to the model is influenced not only by the model's social characteristics but also be observer variables such as his previous reinforcement history with similar models. Some research (Kagan, 1958; Burnstein, Stotland & Zander, 1961; Rosekrans, 1967) with elementary school age children suggests the importance of perceived similarity between observer and model. In the latter study (Rosekrans, 1967), similarity to model significantly influenced children's performance of both "spontaneous" rehearsal and "elicited" recall. These results, however, were confounded by alterations in perceived power and attractiveness of the model produced by changing the model's similarity to the subject. Kagan (1967) has provided evidence that points to the distinctiveness of a model as an observational factor which causes subjects to attend and hence to learn from it. Some non-experimental evidence (Gordon, 1957; Coleman, 1961; Havighurst & Neugarten, 1962) indicates that adolescents

are very responsive to the academic, athletic and social success of their peers.

A number of studies (Krumboltz & Thoresen, 1964; Thoresen, 1966b; Thoresen & Stewart, 1967; Thoresen, Krumboltz & Varenhorst, 1967; Krumboltz, Varenhorst & Thoresen, 1967; Thoresen, Hosford & Krumboltz, 1968) have employed audio and video taped social modeling procedures in both individual and group counseling settings. Only a few studies (Kanfer & Duerfeldt, 1967; Thoresen, Hosford & Krumboltz, 1968; Long, 1968; Thoresen & Krumboltz, in press), however, have investigated the interaction between characteristics of social models and specific characteristics of the observer. Thoresen & Krumboltz (in press) reported findings from experimentation done with high school students which indicated that high athletic success students were most responsive to the high success athletic model which high academic students appeared to be equally responsive to all success levels of academic models. Assessing the actual effect of models on the various classifications of students may have been limited, however, by the fact that models were presented to students via audio tape recording. It may have been difficult for students to discriminate between model cues based on auditory stimuli alone. The present study will explore the question: What <u>type</u> of observer actually does learn, and can subsequently perform this learning, through provision of a video presented model without response contingent reinforcement during treatment?

<u>Operant Conditioning</u>

Current social behavior theories maintain that many human social behaviors may be viewed as voluntary, instrumental response patterns or "operants" (Kimble, 1961). The reinforcements that follow

these response patterns change the future likelihood or probability of similar responses. In this context, reinforcement must be defined empirically, i.e., both internally and externally produced stimuli which control the recurrence of a response. The limitless events that can be identified as reinforcers include such cognitive gratifications as information or the attainment of competence. Reinforcing events may involve either the presentation of positive reinforcers or the removal or reduction of aversive stimuli. The reinforcing consequences produced by an individual's behavior change the likelihood that he will show similar behavior subsequently in related situations. Also, for any pair of responses, the more probable one will reinforce the less probably one (Premack, 1965; Hilgard & Bower, 1967).

Structured stimulus materials (e.g., workbooks and programmed learning materials) designed to teach career decision-making behaviors. have shown some success in classroom settings (Yabroff, 1964; Clark, Gelatt & Levine, 1965; Magoon, 1968). These materials, however, have not been used in an actual group counseling setting with high school adolescents. Nor have they generally used observable behavior outside of the learning situation as dependent variables. An important problem may be, e.g., that knowledge of how to make decisions does not ensure actual use of such behaviors in decision situations. A study by Weinstein (1968) did successfully develop and use a group counseling treatment termed "structured group interaction" which involved planned written materials for certain types (extroverts and introverts) of clients. The client problem, however, involved excessive examination anxiety rather than career decision-making. This study will explore the question: What type of student will be more responsive when reinforced

for active involvement with an appropriate use of career decision-making materials in a group counseling setting?

Acquisition vs. Performance

Some social behavior theorists (Bandura, 1965a; Mischel, 1968) maintain that modeling procedures are most efficacious in transmitting new response patterns, while operant conditioning methods are typically concerned with the management and control of previously learned responses. There is suggestive evidence that the acquisition of imitative responses occurs through contiguity while reinforcements administered to a model primarily influence the performance of observationally learned responses.

The question whether reinforcement functions primarily as a performance or an acquisition variable was given additional attention in a study (Bandura, 1965b) in which children observed a film-mediated model who demonstrated novel physical and verbal aggressive responses. In one treatment the model was severely punished; in a second the model was generously rewarded; while the third treatment presented no response consequences to the model. A postexposure performance test of imitation showed that differential reinforcement had generated differential amounts of imitative behavior across subject groups. Following the performance test, introduction of positive incentives for reproducing the model's responses completely eliminated the previously observed performance differences, showing an equivalent amount of learning among the children in the model-rewarded, model-punished and the no-response-consequences treatments. In other words, while immediate response consequences to the model have an important influence on the observers' performance of imitative responses, the acquisition of these responses appears to result primarily from contiguous sensory stimulation.

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In another study (Bandura, Blanchard & Ritter, 1968), an experimental treatment condition which combined a modeling procedure with active participation on the part of the subjects, proved to be the most effective of several competing treatments. Adult snake phobics were treated by one of three methods: (1) systematic desensitization, (2) film-presented, symbolic modeling, or (3) live modeling with guided participation. The live modeling with guided participation treatment was the most effective in producing complete extinction of phobic behavior in all subjects regardless of the initial severity of their avoidance behavior.

In the live modeling with guided participation treatment, subjects observed the experimenter through a one-way mirror as he modeled fearless interaction with a snake. After this observation phase, the subject was invited to join the experimenter in a graduated sequence of approach behaviors toward the snake. During each phase, the experimenter first demonstrated fearless interaction with the snake and then guided the subject through the same specific movements. The approach tasks were paced according to the subject's apprehensiveness. Furthermore, the experimenter not only explained and demonstrated the approach responses several times but also furnished information about snakes in response to questions from the subject. This treatment combined the modeling of responses to be acquired and the selective reinforcement of the subject for performance of the responses.

To date, experimental treatments involving both modeling procedures and active participation of the subjects have largely been restricted to obtaining novel responses from very young children, extinguishing phobic responses in adults, or influencing the acquisition of special

teacher behaviors (e.g., Orme, McDonald & Allen, 1966). Experimentation is needed to explore the efficacy of such a combined procedure with high school students engaged in learning career decision-making behaviors. Insofar as numerous high school students may avoid career exploration partly due to lack of an explicit strategy for making choices, the following are crucial questions for this study: (1) Will a treatment coupling group social modeling procedures with response contingent reinforcement techniques significantly influence student career decision-making? (2) Will the observation of group social models plus participation in a sequence of structured stimulus materials be so efficacious an experience as to overcome differences among students assessed on personality variables?

The theory and research of Eysenck (1960; 1964; 1966; 1967) can be directly related to the question of what types of individuals are most responsive to what kinds of treatments. Based on the earlier work of Pavlov and Hull, Eysenck developed an "excitation-inhibition" postulate. He maintains that a combination of constitutional and environmental factors determine the degree to which an individual learner is responsive to his immediate environment. Individuals labeled as "introverts" have a strong excitation and weak inhibition balance while "extroverts" possess a weak excitation and strong inhibition balance. Eysenck suggests that individuals described as introvert should be provided with counseling procedures involving considerable reflective and imagery related behavior because they acquire new responses readily without the aid of direct sensory stimuli. Extroverts, however, should be counseled in a setting demanding more social group interaction and a variety of sensory activities involving movement and action since they are less sensitive to their immediate environment.

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The present study attempted an empirical test of Eysenck's assumptions. Students were classified as introverts and extroverts using the Maudsley Personality Inventory (Eysenck, 1962). The question was asked: Were students classified as introverts more responsive to a social modeling procedure designed to stimulate career exploration behaviors than students classified as extroverts? Similarly, did extroverted students perform more career decision-making behaviors when engaged in working directly with structured stimulus materials than introverted students?

Statement of Hypotheses

I. Students assigned to the three experimental treatments: (a) group structured interaction materials, (b) group social modeling, and (c) group social modeling plus participation, will emit more career decision-making behaviors than will equivalent students assigned to the control condition. Career decision-making behaviors are operationally defined by the scores on the following criterion measures: (1) knowledge of how to obtain relevant and reliable information, (2) frequency and variety of information-seeking behavior, (3) knowledge of how to use or process relevant and reliable information, and (4) performance in a simulated career decision situation where a variety of data must be obtained and utilized.

II. Scores on criterion measures by students who receive the structured interaction treatment will show a strong positive relationship to personality extrovertion.

III. Scores on criterion measures by students who receive the group social modeling treatment will show a strong positive relationship to personality introvertion.

Significance of the Study

To date, counseling researchers have provided little assistance for students in the way of empirical data on how career exploration behavior is developed and modified. Some recent investigations provide

encouraging evidence that social modeling procedures as well as treatments demanding active student involvement can be powerful factors in promoting career exploratory behaviors. A problem that awaits study, however, has been the considerable variability of modeling effectiveness with each subject. At present very little attention has been given to the interaction between modeling treatment and observer characteristics in the counseling research literature.

The long term goal is to obtain answers to the question: "What treatment by whom is most effective for this individual with that specific problem under which set of circumstances?" (Thoresen, 1966a). With such answers, educators and counselors can be much more effective than they are today in arranging conditions under which individual students can best learn what is so urgently needed: How to make good career decisions.

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CHAPTER II

METHODS

The design of this investigation is shown in Diagram 1. Since the project actually consisted of two separate studies, one in which male students were treated by male counselors and another in which female students were treated by female counselors, the design shown in Diagram 1 was replicated twice, once for males and once for females. For each of the two studies the independent variables were counselor (2) and treatment (4). Dependent variables for the studies were scores on the following criterion measures administered before and after treatment: (1) Attitude Questionnaire - This instrument measured attitude toward planning and decision making. (2) Vocational Information Survey, Part I and Part II - Knowledge and recognition tests of how to use and process relevant and reliable information. (3) Career Planning Inventory - An inventory of information-seeking behaviors, and (4) Vocational Planning Questionnaire - A simulation test of the ability to use decision-making behaviors. In addition, the Maudsley Personality Inventory was administered prior to treatment, so that scores on this measure could be related to treatment effects.

Subjects

Diagram 2 illustrates the assignment of subjects to groups. The pattern shown in Diagram 2 was utilized once for males and once for females, thus the total number of subjects in each group would be equal to two times the amount shown in the diagram. Students participating in the project were eleventh grade students from three high schools in

Diagram 1

Project Design with Number of Subjects per Group

	Counselor 1		Counselor 2	
	Group 1	Group 2	Group 1	Group 2
Treatment 1 Structured Group Interaction	5	5	5	5
Treatment 2 Group Social Modeling	5	5	5	5
Treatment 3 Modeling plus Interaction	5	5	5	5
Wait Control	20			

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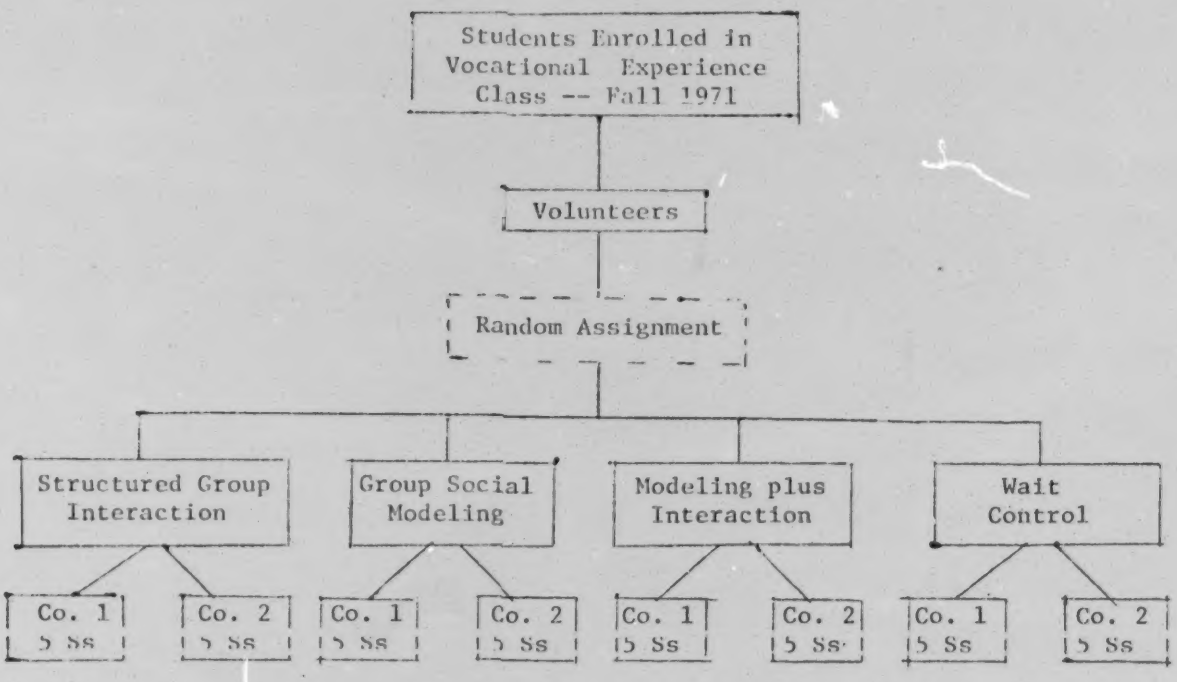
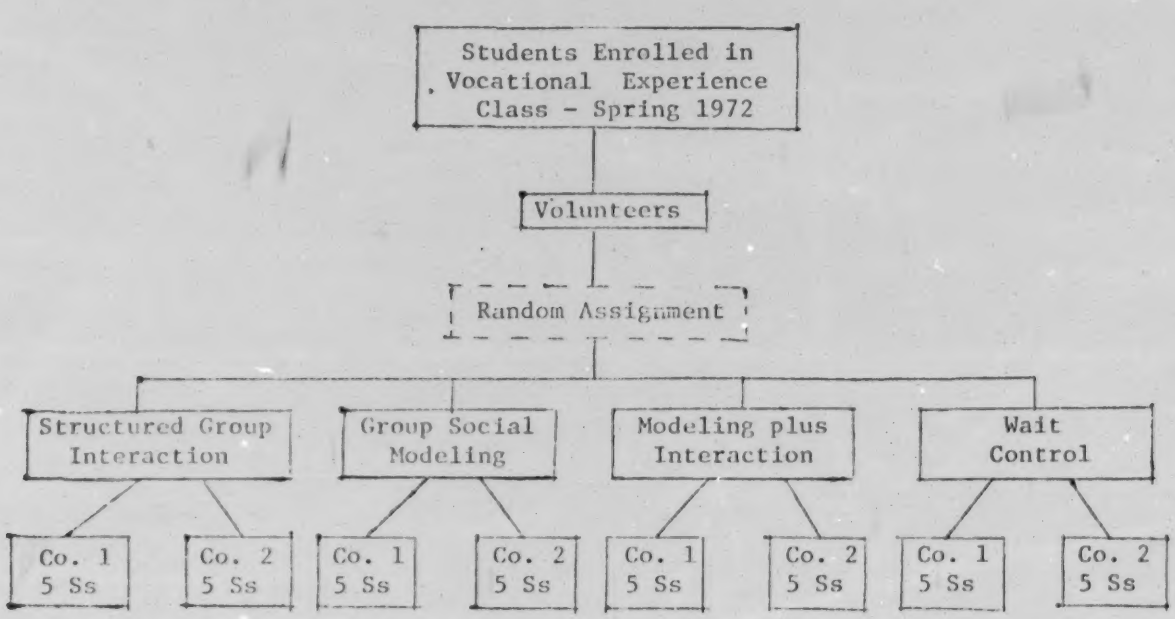
Diagram 2

Assignment of Subjects to Groups





Evanston, Illinois. These three schools are located on one campus. The students were all enrolled in a single course in vocational experience in preparation for entering the world of work immediately following graduation from high school. In the fall of 1971 40 males and 40 females were selected from the students taking the vocational experiences course initially tested and randomly assigned either to one of the three treatment groups or to the wait control group. Students within treatment groups were then randomly assigned to counselors. Following implementation of treatments, the same subjects were posttested on all dependent measures during the fall of 1971. Then in the spring semester of 1972 a different group of students, 40 males and 40 females, were selected, pretested, assigned to treatments, treated, and posttested. Thus the total N for the study was 80 for males and 80 for females.

Counselors

The treatment counselors in this project were selected from among doctoral students in counselor education at Northwestern University. Each of the four counselors (2 males and 2 females) implemented three treatments during each of the two semesters. Each counselor had experience implementing group treatments with high school students and in addition each counselor was trained through a five hour training session in the use of the different treatment procedures.

Treatments

As stated above this study included three experimental treatment groups and one wait control group. The experimental treatments were: (a) Structured group interaction, (b) Group social modeling, and (c) Group social modeling plus structured interaction.

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Structured Group Interaction

Subjects in groups of five dealt with a series of materials over a period of five weeks. These materials were designed in such a way that the subjects were actively involved in listening, talking, writing, and enacting, decision-making and information-gathering behaviors through role playing. During each session the counselor verbally and non-verbally reinforced relevant participation.

First session. This session began with introduction of counselors and students, the counselors' statement of the purpose of the project and a brief summary of the activities involved. The counselor then turned to the discussion of the variety of job possibilities that exist in the world of work. Students spent some time reading and studying a list of different occupations noting those that they thought interesting (See Appendix A). The final activity in this session involved students' attention to the student preference sheet (See Appendix A). This sheet required students to express their preference regarding characteristic activities of different jobs. These characteristics concerned such factors as working in social situations versus work around machines, working in a variety of settings versus working in the same familiar surroundings, etc. For some categories such as pay, students were asked to state minimal levels which would be acceptable to them. Following work on the student preference sheet this treatment session was concluded.

Second session. The first activity in the second session required the students to chose three job alternatives that seemed interesting to them and which they wanted to investigate further. Once the three alternatives had been suggested the counselor initiated a discussion of questions which would be useful for acquiring information about

these jobs. One of the topics covered by the counselor in this discussion was the criteria for good questions. These criteria included specificity, relevance, and asking the questions of reliable sources. Following this discussion the students were asked to develop as many questions as they could for one of the job alternatives. Next, students and the counselor spent some time discussing different modes of seeking answers to the questions. These modes include (1) observing workers on the job or observing occupational film; (2) reading vocational simulation kits or occupational brochures; (3) listening to audio tapes or other presentations that described jobs; (4) talking to counselors, teachers, or individuals employed on that particular job; (5) writing letters to offices of employment, specific firms and industries and offices of admissions to institutions of higher education and finally (6) visiting offices of factories, industrial plants, and/or college campuses. At the conclusion of this discussion subjects were given the assignment of seeking answers to the questions they had developed and bringing the answers to the third session.

Third session. At the start of this session the counselor briefly summarized the criteria for good questions and the modes for information seeking. Next the counselor moved to an extended discussion of the experiences each student had in seeking information and a consideration of the questions asked and information acquired for the first job alternative. A job information and evaluation form was used to organize the information (See Appendix A). This third session was almost entirely consumed by consideration of information acquired by subjects between the second and third sessions. However, prior to termination of the third session each subject was asked to select another of the three job alter-

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natives and compose questions for information gathering about that job. Once these questions had been identified the subjects were asked to seek information related to these questions and bring it to the fourth session.

Fourth session. As in the third session the objective of the activities in the fourth session was to help subjects continue to process information and use it to evaluate desirability of the particular job alternative. Again the job information and evaluation form was used and each of the subject's questions and answers were discussed in turn by the total group.

Fifth session. The major objective of this session was to bring closure to the decision-making procedures of the previous four sessions. Initially the counselor handed back to the subjects their personal preference sheets and the career information forms that had been filled out in previous sessions. The subjects then turned to the evaluation columns in the information sheets and determined the desirability of each of the two alternatives that they had previously investigated. Each subject then discussed with the group his reactions to the two alternatives he had investigated and explained his evaluation of each alternative. Following this discussion the counselor summarized the activities in which subjects had been engaged and indicated that each subject had one alternative that he had not investigated and encouraged them to continue seeking information about jobs and terminated the treatment.

Group Social Modeling

Four high school juniors were selected from a neighboring high school not participating in the study. Based on the results of previous

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studies (Thoresen and Stuart, 1967; Thoresen, Hosford and Krumboltz, 1968) student models were selected who were highly successful academically, athletically, and socially in their school setting. These model students were trained in interacting as a group before a video camera. The students then produced five 20 to 30 minute sessions which paralleled the content of each of the five sessions in the structured interaction treatment. Thus a total of five video tapes were produced.

Subjects in the group social modeling treatment were brought into a classroom in which a video monitor had been set up. The subjects were given a sheet which highlighted the major parts of the session they were about to view (See Appendix B). The video tape was then turned on and the subjects spent the next 20 to 30 minutes viewing the particular tapes of the appropriate session. Following the viewing of the tape the counselor went over the main points on the video tape with the students and then the subjects were dismissed. This procedure was followed once a week for five weeks thus covering all five sessions of the group social modeling treatment.

Group Social Modeling and Structured Interaction

The content and sequence of the sessions for the subjects in this treatment paralleled the first two treatment conditions. In contrast however the subjects in this treatment first observed the video models presented in the group social modeling treatment. Then the subjects spent approximately 20 minutes working in the structured interaction mode described in Treatment 1. Hence the treatment combined observation of career decision-making behaviors with an opportunity to actually perform them. Again subjects in this treatment were involved in one session per week for five weeks.

Wait Control (no treatment control)

This group provided conditions to evaluate the passage of time, current life experiences, expectancy of receiving treatment and repeated testing. The subjects were initially tested at the same time as subjects in other treatments were tested. They were then told that because of the counselor time limitations it would not be possible to provide counseling for them at that time but that in approximately six weeks they would be counseled. The wait control subjects completed all post-treatment assessments at the same time as the treatment subjects.

Instrumentation

A variety of measures were used in this study to assess treatment effects. These included a measure of students' attitudes toward planning and decision making, two measures of students' knowledge of decision making strategies, a measure of the information seeking in which the student had engaged, and finally a measure which assessed the students' ability to apply their knowledge of decision-making strategies to a particular decision-making situation.

Attitude Questionnaire. This instrument was designed to assess students' interest in various kinds of activities related to planning and decision making (See Appendix C). Examples of the stems used are: scheduling to get things done, writing for job information, figuring out questions to ask about jobs, organizing job information, and thinking about what I am going to do after I get out of school. The questionnaire included 21 such stems. For each stem the student was asked to indicate whether he was interested in the activity, whether he had no interest in the activity, or if he had no strong feeling one way or another about the activity. A total score was computed which indicated the strength

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of the individual's stated interest in decision-making activities.

Career Planning Inventory. This inventory assessed the students' information seeking during the immediately preceding three week period (See Appendix C). Consequently it was administered three weeks after the termination of treatments on the posttest. The sections of the Career Planning Inventory focussed on the number of occupations the student had been considering, the number of people with whom the student had interacted about job information, the number and kind of printed material the student had consulted in gathering information, the kinds of visits the student had made, and any on-the-job efforts the student had made to gain information about jobs. Again a total score representing the number of information-seeking activities was computed for this questionnaire.

Vocational Information Survey: Part I and Part II. These two instruments were designed to be tests of the students' knowledge of decision-making and information-seeking strategies (See Appendix C). The first survey, the Vocational Information Survey Part I, was a recognition test. The student completed eleven multiple choice items assessing his knowledge of methods for seeking information and processing this information. The Vocational Information Survey Part II was designed to assess the individual's recall of good decision-making strategies, information-seeking modes, and criteria for good questions. A total score was computed for each subject on each of the two measures.

Vocational Planning Questionnaire. This instrument presented the student with a simulated decision-making situation (See Appendix C). The student was asked to consider or pretend that he had become interested in the job of electronic technician. He was then asked to write

questions he would use in seeking information, identify ways of gathering information, and in fact gather the information from an attached information packet on electronic technicians' work. Next the student was asked to compare his strengths and weaknesses with the characteristics of the job and make a decision with respect to how promising the job would be for him. On the basis of how well these questions were written, the information gathered, the decision was made, a total score was computed for each student.

CHAPTER III

RESULTS

Since this study included pretests and posttests on all dependent measures and since counselors were one of the independent variables in the design, a number of preliminary analyses were performed to determine the nature of the final analyses for evaluating treatment effects. First, for each sex one way analyses of variance were performed on each pretest. These analyses were utilized to determine whether the treatment and control groups differed significantly on pretests to warrant the use of analyses of covariance. For females no significant differences were found among groups on any of the pretests ($p < .10$). However for males significant differences ($p < .05$) were found on both the attitude measure and Vocational Information Survey Part II. Thus, for these two measures analyses of covariance were used to investigate treatment effects. Next, 2 X 3 (two counselors X three treatments) analyses were computed on each dependent variable within each sex to identify any counselor main effects. No significant differences between counselors appeared for either sex thus permitting a collapsing of the design across counselors. Consequently the analyses of treatment effects were one-way analyses of variance and covariance. Finally it should be noted that due to the length of the treatment period some control and treatment subjects dropped from the study for various reasons. Thus unequal "N" analyses were employed to test the first hypothesis.

Hypothesis I:

> Students assigned to the three experimental treatments, (a) structured group interaction, (b) group social modeling, and (c) group social modeling plus structured interaction, will emit more career decision-making behaviors as assessed by the dependent measures than will equivalent students assigned to the control conditions.

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Results: Hypothesis I, males. The analyses of variance and covariance tables for the five dependent variables are presented in Tables 1, 2, 3, 4, and 5. In addition the means and standard deviations for each group and each variable are presented in Tables 6, 7, 8, 9, and 10. The analyses produced no significant differences among groups on any of the five dependent variables ($\alpha = .05$). The Career Planning Inventory is the only dependent variable for which the F-value even approaches significance ($p = .08$, See Table 1) and for this variable the control group mean is the largest of the four means (See Table 6). Inspection of the tables of means and standard deviations shows mixed results with no clear trends reflecting significant treatment effects.

Results: Hypothesis I, females. The analyses of variance tables for females on the five dependent variables are presented in Tables 11, 12, 13, 14, and 15. The means and standard deviations for each group and each variable are presented in Tables 16, 17, 18, 19, and 20. The analyses for the Attitude Questionnaire, Career Planning Inventory, and Vocational Information Survey Part I produced no significant F-values ($\alpha = .05$). However for the Vocational Information Survey Part II, $F = 3.12$ with p .05. T-tests were computed to compare the experimental groups on the basis of their posttest scores on the Vocational Information Survey Part II. With $\alpha = .05$ these tests revealed that while the video plus participation group mean is significantly larger than the means for both the other two experimental groups and the control group, none of these other means differ significantly (See Table 19). Finally, for the Vocational Planning Questionnaire the analysis produced an F-value of 2.39 with $p = .07$. Although this F is not significant at $\alpha = .05$, Table 20 shows that again the mean for the video plus participation group is larger than the means for the remaining groups.

Table 1

Analysis of Variance of the
Career Planning Inventory
Total Score - Males

Source of variation	df	M S	F value
Treatment	3	387.727	2.358*
Error	62	164.451	

* p = .08

Table 2

Analysis of Variance of the

Vocational Information Survey Pt. I

Total Score - Males

Source of variation	df	M S	F value
Treatment	3	5.1742	0.7884*
Error	62	6.5632	

*p = .50

Table 3

Analysis of Variance of the

Attitude Questionnaire

Total Score - Males

Source of variation	df	M S	F value
Treatment	3	98.8685	1.3095*
Error	61	75.5034	

* p = .27

Table 4

Analysis of Variance of the

Vocational Information Survey Pt. II

Total Score - Males

Source of variation	df	M S	F value
Treatment	3	8.9613	0.5650*
Error	61	15.8604	

* p = .64

Table 5

Analysis of Variance of the

Vocational Planning Questionnaire

Total Score - Males

Source of variation	df	M S	F value
Treatment	3	46.6617	0.9702*
Error	62	48.0962	

* p = .41

Table 6

Means and Standard Deviations for all groups on the Career Planning Inventory Pre and Posttest - Males

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	14.33	15.16	12.83	6.51
Group Social Modeling	17.41	20.08	9.88	5.15
Modeling plus Interaction	11.00	7.17	11.86	6.94
Wait Control	17.50	14.11	21.00	23.63

Table 7

Means and Standard Deviations for all groups
on the Vocational Information Survey Pt. I
Pre and Posttest - Males

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	8.39	15.77	4.67	2.70
Group Social Modeling	5.35	2.09	4.53	2.38
Modeling plus Interaction	4.07	2.05	3.73	2.37
Wait Control	5.06	2.29	5.12	2.75

Table 8

Means and Standard Deviations for all groups on the Attitude Questionnaire Pre and Posttest - Males

Treatment Condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	34.72	13.88	42.05	4.22
Group Social Modeling	44.24	7.95	42.53	5.64
Modeling plus Interaction	45.99	4.02	38.87	12.70
Wait Control	44.37	6.74	40.62	12.27

Table 9

Means and Standard Deviations for all groups on the Vocational Information Survey Pt. II Pre and Posttest - Males

Treatment Condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	3.00	2.95	4.72	4.11
Group Social Modeling	1.35	2.21	4.24	3.61
Modeling plus Interaction	4.53	2.56	6.27	4.61
Wait Control	3.63	4.06	4.25	3.98

Table 10

Means and Standard Deviations for all groups on the Vocational Planning Questionnaire Pre and Posttest - Males

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	8.78	9.40	11.33	7.53
Group Social Modeling	10.53	4.33	11.47	6.15
Modeling plus Interaction	9.53	4.85	8.47	6.43
Wait Control	8.63	6.64	8.50	7.46

Table 11

Analysis of Variance of the
Attitude Questionnaire
Total Score - Females

Source of variation	df	M S	F value
Treatment	3	60.228	0.441*
Error	61	136.532	

* p = .72

Table 12

Analysis of Variance of the
Career Planning Inventory
Total Score - Females

Source of variance	df	M S	F value
Treatment	3	311.788	.7923*
Error	61	393.501	

* p = .50

Table 13

Analysis of Variance of the
Vocational Information Survey Pt. I
Total Score - Females

Source of variance	df	M S	F value
Treatment	3	2.6737	0.4580*
Error	61	5.8377	

* p = .71

Table 14

Analysis of Variance of the

Vocational Information Survey Pt. II

Total Score - Females

Source of variance	df	M S	F value
Treatment	3	46.6808	3.1242
Error	61	14.9419	

* p = .03

Table 15

Analysis of Variance of the

Vocational Planning Questionnaire

Total Score - Females

Source of variance	df	M S	F value
Treatment	3	114.9687	2.3939
Error	61	48.0257	

* p = .08

Table 16

Means and Standard Deviations for all groups

on Attitude Questionnaire

Pre and Posttest - Females

Treatment Condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	39.90	14.73	39.81	17.92
Group Social Modeling	43.79	12.60	43.90	11.83
Modeling plus Interaction	40.35	17.78	43.57	5.01
Wait Control	44.37	6.74	43.33	5.96

Table 17

Means and Standard Deviations for all groups
on the Career Planning Inventory
Pre and Posttest - Females

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	13.95	10.72	22.00	27.44
Group Social Modeling	13.54	11.09	14.57	12.33
Modeling plus Interaction	14.57	11.31	14.79	12.77
Wait Control	17.50	14.11	22.39	23.75

Table 18

Means and Standard Deviations for all groups on the Vocational Information Survey Pt. I Pre and Posttest - Females

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	7.40	12.69	5.87	2.22
Group Social Modeling	5.46	1.99	4.95	2.73
Modeling plus Interaction	3.79	2.94	5.50	2.03
Wait Control	5.06	2.29	5.47	2.47

Table 19

Means and Standard Deviations for all groups on the Vocational Information Survey Pt. II Pre and Posttest - Females

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	7.95	13.08	4.50	3.54
Group Social Modeling	4.00	4.40	4.33	3.89
Modeling plus Interaction	3.00	3.30	8.00	4.07
Wait Control	3.62	4.06	4.53	3.94

Table 20

Means and Standard Deviations for all groups

on the Vocational Planning Questionnaire

Pre and Posttest - Females

Treatment condition	Pretest		Posttest	
	M	SD	M	SD
Structured Group Interaction	12.25	10.90	12.00	7.47
Group Social Modeling	10.58	5.8	13.05	6.68
Modeling plus Interaction	8.71	7.20	15.86	6.13
Wait Control	8.62	6.64	9.07	7.35

Hypothesis II:

For students who received the structured interaction treatment scores on criterion measures will show a strong positive relationship to personality extroversion.

As noted in the Methods section of this report, the Maudsley Personality Inventory was administered to all subjects participating in this study prior to the implementation of treatments. This personality inventory provides a means of measuring personality introversion-extroversion with higher scores on the Maudsley representing extroversion.

In order to test Hypothesis II regression analyses were implemented for males and for females participating in the structured interaction treatment. In these analyses the Maudsley Personality Inventory total score was used as a predictor separately for each of the five dependent variable total scores. The results of these analyses are presented in Tables 21 and 22. Table 21 presents the data for males, and Table 22 the corresponding data for females. As can be seen through inspection of these tables, the results do not support Hypothesis II. For males, the regression coefficient for the Career Planning Inventory is positive and is significant at $p < .10$. This indicates a positive relationship between the Career Planning Inventory total score and personality extroversion. However, the regression coefficient for the Vocational Information Survey Part II is negative and is significant at $p < .10$, and the regression coefficient for the Vocational Planning Questionnaire is also negative and is significant at $p < .05$. These data indicate a negative rather than positive relationship between the total scores for these measures and personality extroversion. This, in fact, would indicate that the more introverted a person is, the better he scored on these two measures while having participated in the structured

Table 21

Maudsley Personality Inventory as a
Predictor of Different Dependent Variables
For Males in the Structured Interaction Treatment

Dependent Variables	Regression Coefficient	Constant	F
Attitude Questionnaire	-0.26	44.02	1.153
Career Planning Inventory	0.43	7.77	3.717*
Vocational Information Survey Pt. I	0.17	3.84	0.481
Vocational Information Survey Pt. II	-0 41	7.71	3.151*
Vocational Planning Questionnaire	-0 53	18.53	6.363**

* $p < .10$ d.f. 1, 16
** $p < .05$ d.f. 1, 16

Table 22

Maudsley Personality Inventory as a
Predictor of Different Dependent Variables
For Females in the Structured Interaction Treatment

Dependent Variables	Regression Coefficient	Constant	F
Attitude Questionnaire	-0.27	48.48	1.494
Career Planning Inventory	0.30	- 2.99	1.789
Vocational Information Survey Pt. I	-0.07	5.32	0.103
Vocational Information Survey Pt. II	-0.28	6.25	1.488
Vocational Planning Questionnaire	-0.27	15.54	1.452

interaction treatment. Thus for males, of the three significant regression coefficients, two are in the opposite direction from that indicated in Hypothesis II. The data for females show no significant regression coefficients. However, of the five coefficients, four are negative, again reflecting a relationship which is just the opposite of that indicated in Hypothesis II.

The lack of support for Hypothesis II is further documented in Table 23. This table presents the results of regression analyses for males and females combined in the structured group interaction treatment. As in previous analyses the Maudsley Personality Inventory total score was used as a predictor for the total scores for each of the five dependent variables in the study. As shown in Table 23 only two of the five regression coefficients were significant. The coefficient for the Vocational Information Survey Part II is negative and significant at $p < .10$, while the regression coefficient for the Vocational Planning Questionnaire was also negative and significant at $p < .05$. Both of these regression coefficients reflect relationships which are directly opposite from those predicted or indicated in Hypothesis II.

Hypothesis III:

> For students who received the group social modeling treatment scores on criterion measures will show a strong negative relationship to personality extroversion, in other words the relationship will be strong between criterion measure total score and personality introversion.

To test Hypothesis III, regression analyses were performed separately for males and for females who received the group social modeling treatment. In these analyses the Maudsley Personality Inventory total score was used as a predictor for each of the five dependent variable total scores. Since high scores on the Maudsley represent

Table 23

Maudsley Personality Inventory as a

Predictor of Different Dependent Variables

For Males and Females in the Structured Interaction Treatment

Dependent Variables	Regression Coefficient	Constant	F
Attitude Questionnaire	-0.10	40.35	0.399
Career Planning Inventory	0.20	7.46	1.538
Vocational Information Survey Pt. I	0.06	4.33	0.135
Vocational Information Survey Pt. II	-0.3[illegible]	6.54	3.821*
Vocational Planning Questionnaire	-0.3[illegible]	16.31	5.756**

* $p < .10$ d.f. 1, 36
** $p < .05$ d.f. 1, 36

extroversion and conversely low scores represent personality introversion results supportive of Hypothesis III would show significant negative regression coefficients for Maudsley scores in predicting dependent variable total scores.

The results of regression analyses for males are presented in Table 24. As can be seen in Table 24, four of the five regression coefficients are negative and one of these four, the coefficient for the Vocational Planning Questionnaire, is significant at $p < .05$. These data then would indicate for males in the group social modeling treatment individuals showing personality introversion as a personality characteristic tended to score higher on dependent variables than did those individuals showing an extroverted personality pattern. The results for females are presented in Table 25. Only one of the five regression coefficients is negative. However, none of the five reach significance. In Table 26, the data for males and females combined in the group social modeling treatment is given. The results here again while minimal tend to support Hypothesis III insofar as the only significant regression coefficient is that for the Vocational Information Survey Part II, and this coefficient is negative and significant at $p < .10$. Thus the results do provide some support for the hypothesis that introverted individuals tend to learn more from a modeling treatment than do extroverted individuals.

Table 24

Maudsley Personality Inventory as a
Predictor of Different Dependent Variables
For Males in the Group Social Modeling Treatment

Dependent Variables	Regression Coefficient	Constant	F
Attitude Questionnaire	0.04	41.82	0.025
Career Planning Inventory	-0.26	14.04	1.122
Vocational Information Survey Pt. I	-0.27	6.52	1.219
Vocational Information Survey Pt. II	-0.10	5.30	0.140
Vocational Planning Questionnaire	-0.53	21.36	5.735*

* $F < .05$ d.f. 1, 15

Table 25

Maudsley Personality Inventory as a

Predictor of Different Dependent Variables

For Females in the Group Social Modeling Treatment

Dependent Variables	Regression Coefficient	Constant	F
Attitude Questionnaire	0.06	36.50	0.082
Career Planning Inventory	0.04	11.80	0.027
Vocational Information Survey Pt. I	-0.29	7.48	1.985
Vocational Information Survey Pt. II	0.11	2.53	0.243
Vocational Planning Questionnaire	0.28	4.83	1.824

Table 26

Maudsley Personality Inventory as a
Predictor of Different Dependent Variables
For Males and Females in the Group Social Modeling Treatment

Dependent Variables	Regression Coefficient	Constant	F
Attitude Questionnaire	0.02	40.12	0.022
Career Planning Inventory	0.02	11.04	0.025
Vocational Information Survey Pt. I	-0.27	6.84	3.076*
Vocational Information Survey Pt. II	0.02	3.87	0.011
Vocational Planning Questionnaire	(Insufficient F-level for computation of regression statistics)		

* $p < .10$ d.f. 1, 38

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

The results of this project make possible only very limited conclusions. First, as shown in the Results section, there were virtually no treatment effects for males. In other words, while in all three treatment groups the subjects were exposed to rather lengthy and intense treatment procedures, the results show no significant changes due to these treatments. One could attempt to explain these results using explanations such as the following: (a) It is possible that the use of dependent measures not completely assessing possible treatment effects could have led to "missed" effects. (b) Lack of subject motivation could also have led to an absense of treatment effects. This would involve the fact that since subjects in this study were also enrolled in the vocational experience class it is possible that they in effect had already been exposed to the kinds of material dealt with in the treatments and therefore were not receptive to the treatment procedures. (c) Insufficient treatment time could also have been a factor. For example, it is possible that even though subjects in this study were exposed to five treatment sessions, that more treatment sessions could have been used, or that the sessions could have been longer allowing each subject to express more of his own needs and interests, during the actual treatment procedure. (d) Finally it is possible that the treatment subjects by the time their treatments ended felt closure, that is, felt they had done as much as they needed and therefore did very little information seeking subsequent to the termination of treatment. This of course

would not explain why there were no differences between treatment and control subjects in attitudes towards and knowledge of decision-making skills.

While the explanations offered above are at least plausible in terms of explaining the lack of treatment effects, their credibility is lessened by the fact that in a very similar project (Hamilton, 1969) very mixed results were found essentially showing no clear treatment effect. As in the present study, Hamilton used a structured group interaction treatment, a group social modeling treatment, and a modeling plus interaction treatment. The dependent variables used by Hamilton were also similar to most of those used in this study, namely a knowledge test and information-seeking inventories. Hamilton's study differed from the present project in the fact that it was implemented in three separate schools, and while the subjects were male, all treatment counselors were female. Thus in effect Hamilton ran three separate studies. His results, however, showed very few consistent treatment effects. In one school the group social modeling subjects showed more knowledge of and ability to assimilate career decision-making behaviors than control subjects. At another school group social modeling plus participation led to significantly greater frequency of career decision-making behavior than did the control treatment. And finally in the third school the structured interaction treatment showed more information-seeking behaviors than did the control. This lack of clear overriding treatment effects for any particular procedure makes it very difficult to hold to the hypothesis that these treatments do have the power to accomplish what the dependent variables are measuring, namely changes in knowledge of decision-making strategies and the ability to carry out decision-making

and information-seeking behaviors. Thus at this time for males the data support the conclusion that the treatment procedures used in this project are not sufficiently powerful to bring about changes in average scores for groups of individuals on these dependent variables.

The conclusions to be drawn regarding treatment effects for females differ from the conclusions for males. In fact for two dependent variables, the Vocational Information Survey Part II, and the Vocational Planning Questionnaire, subjects in the modeling plus interaction treatment had higher mean scores than subjects in any of the other treatment groups. Although the effects of the modeling plus interaction treatment did not extend over the attitude questionnaire and the measure of information seeking, the significant results which were obtained would indicate that modeling plus interaction for females does have some power in helping them learn about and become able to apply decision-making skills.

Although pursuit of answers to questions concerning treatment effects for groups of individuals is in many instances a very needed and productive strategy, more important is research which attempts to answer the question: "What treatment by whom is most effective for this individual in that specific problem under which set of circumstances?" (Thoresen, 1966a). Answers to this question can enable educators and counselors to be more effective than they are today in arranging conditions under which individual students can best learn what is so urgently needed, how to make good career decisions. In the present project the assessment of significant treatment effects for groups of individuals showed very little in the way of pervasive positive effectiveness for any treatment. In the absence of these significant main effects for

treatment the analyses involving the use of a predictor variable, the Maudsley Personality Inventory, have increased potential for identifying significant personality characteristics versus treatment procedure interactions. As noted above, Hypothesis II stated that for subjects in the structured interaction treatment there would be a strong positive relationship between personality extroversion and treatment effects. In other words those subjects demonstrating or showing extroverted personality characteristics would tend to learn better from the structured interaction than would subjects showing introverted personality characteristics. The results did not support this hypothesis, and in fact of the ten regression coefficients, five for males and five for females, seven were negative in sign and of these seven, two were significant; only one significant positive regression coefficient was identified.

Hypothesis III stated that for subjects in the group social modeling treatment individuals showing introverted personality characteristics as measured by the Maudsley Personality Inventory would learn better from the treatment than would individuals showing extroverted personality characteristics. Of the ten regression coefficients computed to test this hypothesis five were negative and the only regression coefficient which was significant at $p < .05$ was negative in sign. Thus Hypothesis III was supported by the data.

Given the large number of negative regression coefficients one possible conclusion is that introverted individuals were more readily effected by these treatments than were extroverted individuals. This conclusion receives some support from descriptions of the two types of individuals. The typical introvert is a quiet and rather introspective individual who is fond of books rather than people, and tends to plan

ahead, while the typical extrovert does not like reading and studying by himself, craves excitement, takes chances and often acts on the spur of the moment. Given these descriptions it is possible to see why the introverted individual would be more likely to attend to and learn from treatments designed to help to develop the career decision-making and planning skills than would the extrovert.

Recommendations

There are two major recommendations rising from this project. The first recommendation calls attention to personality characteristics of individuals with whom one is going to work for the purpose of teaching decision-making skills. The data in this study support the recommendation that treatments such as those implemented in the project are more effective with individuals who can be described as introverted. This is not to say that one should not attempt to teach decision-making skills to extroverted individuals. However in a class, or in a group of students, for whom this kind of learning is required, maximum effectiveness could be obtained by engaging the introverted individuals in experiences such as those used in this project whether they be structured interaction or group social modeling, and engaging the extroverted individuals in somewhat different types of treatments. Of course at this point, while there are some indications as to what may be effective with introverted individuals, certainly as far as further research is concerned, new treatment procedures must be identified for extroverted individuals while replication of these findings for introverted individuals is also needed.

The second recommendation involves a situation in which there is no opportunity to differentiate treatments according to personality

styles and the data in this study then supports the recommendation that for females a procedure involving both structured interaction and troup social modeling can be effective in teaching decision-making skills. In other words in the situation in which there is not time nor sufficient resources to provide a number of different treatments for different types of individuals a modeling plus interaction treatment can be expected to be effective for females.

APPENDIX A

FORMS FOR TREATMENT

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Career Possibilities

Below is a list of twenty-five different categories of occupations with some examples of jobs to be found in each category. The list is in alphabetical order. It may furnish you with some ideas about jobs that would appeal to you.

1. Accountancy - Other Financial: Concern with methods of achieving efficient responsible handling and record keeping of funds and materials.
   - ex: bookkeeper/ Certified Public Accountant
   - ex: Comptroller

2. Agricultural - Ecological: Having to do with the quality of the environment, production of food, care of animals, care of natural resources.
   - ex: pollution control; waste water treatment plant operator
   - ex: forest ranger

3. Artistic - Aesthetic: Concerned with improving design, beauty of surroundings; can be involved with visual, aural aspects of life.
   - ex: musical composer or artist
   - ex: landscape designer, interior decorator, accoustical expert

4. Building Trades: Work in new construction, for small agencies, or as self employed. Jobs involve physical work plus good coordination; work is both indoors and outdoors.
   - ex: carpenter
   - ex: plasterer
   - ex: painter

5. Construction Machinery Operators: Operate and maintain various types of power driven construction machinery on such jobs as highway, dam, airport and other large construction jobs. Employment also in factories and mines.
   - ex: power shovel operator
   - ex: concrete mixer operator
   - ex: site foreman

6. Driving Occupations: Chauffeurs working for companies.
   - ex: truck drivers (over-the-road) long haul
   - ex: local drivers
   - ex: bus drivers

7. Engineering: Transforming plans and specifications into useable, useful products; often, creating the plans.
   - ex: aeronautical engineer
   - ex: mechanical draftsman

8. Legal Occupations: Increasing the awareness of rights and responsibilities of the individual; representing individuals in court; effecting changes in legal apparatus of community, state, nation.

8. ex: lawyer
   ex: judge
   ex: law clerk

9. Machine Occupations: Operation of stationary power driven machines that cut metal to desired shapes.
   ex: all-round machinist
   ex: tool and die makers

10. Mechanics and Repairmen: Keep all types of machinery and equipment operating properly.
   ex: automotive mechanics
   ex: maintenance electricians
   ex: home appliance servicemen

11. Medical and Allied Occupations: Improving and maintaining health.
   ex: physician/dentist
   ex: researcher in Public Health or Mental Health

12. On the Frontiers: Areas needing more exploration, having relatively few guidelines at present.
   ex: aquanaut
   ex: urban affairs expert

13. Other Manual Operations: Skilled jobs of various types.
   ex: furniture upholsterers
   ex: motion picture projectionists
   ex: factory worker

14. Political - Governmental: Public service dependent upon election, examination, or appointment; deals with important events related to large groups of individuals.
   ex: State or Congressional Senator
   ex: Civil Service Positions
   ex: F.B.I. special agents

15. Printing Occupations: Prepare surfaces of metal, stone, wood, linoleum, rubber or plastic so that parts of them may be covered with ink. Ink is then transferred to a sheet of paper or other material which is pressed against the surface.
   ex: photoengraver (metal printing plates)
   ex: printing pressmen

16. Promotion and Sales: Areas involved with distribution of products, volume and flow of goods, creation of demand.
   ex: advertising
   ex: selling and/or demonstration
   ex: department store buyer

17. Public Information: Concerned with spreading of information in a rapid, accurate manner.
   ex: TV newscaster or journalist
   ex: freelance writer
   ex: broadcast technician

18. Record-Keeping Operations: Systematic cataloguing of information for speedy retrieval and use.
    - ex: librarian
    - ex: registrar or recorder (governmental, educational or industrial
    - ex: file clerk

19. Recreational Occupations: Enhancement of leisure time through performing, teaching or participating.
    - ex: professional sports; entertainer; member of acting company
    - ex: recreation director
    - ex: physical education teacher

20. Research Technology: Utilization of new technology to aid in solving current problems.
    - ex: computer programmer
    - ex: statistician
    - ex: electronics technician

21. Restaurant Industry Occupations: Operations concerned with the preparation, serving and distribution of prepared food to consumers.
    - ex: restaurant manager, proprietor, owner
    - ex: menu expert for large restaurant chain
    - ex: stocker for food vending machines

22. Service Industry Occupations: Concerned with providing services to individuals and businesses.
    - ex: plumbing and heating business owner
    - ex: route planner for fast delivery service
    - ex: owner clipping bureau (supplies news clippings to clients)

23. Spiritual - Ethical Occupations: Concerned with guiding others in religious, moral or educational matters.
    - ex: clergyman
    - ex: teacher
    - ex: religious education director

24. Social Service Occupations: Concerned with locating problems of all kinds, aiding in finding solutions, implementing solutions.
    - ex: juvenile officer
    - ex: social worker

25. Technical Pursuits: Highly skilled, highly technical specialized operations having to do with the function, maintenance of equipment, interpretation of results of intricate tests.
    - ex: medical technician
    - ex: industrial troubleshooter
    - ex: air traffic controller; airline despatcher

STUDENT PREFERENCE SHEET

Directions: For each pair of statements in the Sections below check the one which most accurately describes your interests at this time.

Section A. Activities

I would prefer to.....

_____ work by myself

_____ work in social situations (member of a work team)

_____ deal with the making of things and objects

_____ work in a job that provides direct service to people

_____ supervise the work of others

_____ be concerned primarily with my own work

_____ do (routine), organized work

_____ do (creative), unstructured work

_____ work on a variety of tasks

_____ specialize in a small number of tasks

_____ work on a task from beginning to end

_____ work on one part of a larger task

_____ do fine, precision work

_____ do work that does not require close attention to detail

_____ do work which requires little physical activity

_____ use many parts of my body in my work

Section B: Working Conditions

I would prefer to.....

_____ work indoors

_____ work outdoors

_____ travel very little

_____ travel extensively

_____ work in a variety of places

_____ work in the same place

_____ work in a job where openings are found mainly in a particular region of the country

_____ work in a job where openings are available anywhere in the country

_____ work in a job that has regular hours (for example, 8 A.M. - 5 P.M.)

_____ work in a job where the hours and days are not fixed

_____ work in a job where there are few pressures to meet deadlines

_____ work in a job where there is considerable pressure to meet deadlines

I would prefer to work for which size organization (check one).....

_____ small, up to 50 employees

_____ medium, 50-500 employees

_____ large, more than 500 employees

_____ very large, world-wide corporation

Section C: Educational and Training Level

I would prefer to (check one).....

_____ not complete high school

_____ complete high school with academic major

_____ complete high school with vocational major

_____ take some schooling less than full college, that is, junior college, trade school, adult evening school, etc.

_____ complete a 4 year college program

(_____ take post-graduate study after college)

Section D: Salary & Benefits

I would prefer an occupation in which my salary after two to four years of employment would be at least (check one).....

_____ $7500 per year ($150/week)

_____ $10,000 per year ($200/week)

_____ $15,000 per year ($300/week)

_____ greater than $15,000 per year

I would prefer a job which offered.....

_____ high pay, but few if any fringe benefits (for example, sick leave, health & accident insurance, disability insurance)

_____ not as high pay, but many fringe benefits

_____ fixed pay (hourly, weekly, monthly, etc.)

_____ pay based on how much work I do (commission, piece-rate, etc.)

Section E: Stability and Growth

I would prefer a job.....

_____ in which promotion depends upon number of years on the job

_____ in which promotion depends upon how well I do my job

_____ in a well known, and long-established industry

_____ in a new, and rapidly changing industry

CAREER INFORMATION AND EVALUATION SHEET

Career Alternative _____ NAME _____

Questions: to be based on the items from the Student Preference Sheet which you would most like to know about. Try to put down the question which is most important to you first, and so on down the page	What I found out	Where I found the answer	Evaluation: Comparing the answer to each question with your preferences as stated on the Student Preference Sheet (pages 2-5), ask yourself: What are the chances that this job alternative will give me the kind of experiences I am looking for in a career? Good	Fair	Poor	Don't Know
1.			___	___	___	___
2.			___	___	___	___
3.			___	___	___	___
4.			___	___	___	___
5.			___	___	___	___
6.			___	___	___	___

APPENDIX B

CUE SHEETS

N.U. DECISION-MAKING PROJECT

Cue Sheet Session #1

The session you will be watching today will be the first in a series of four sessions in which four eleventh grade students will learn how to make "good" decisions. The students will be involved in a number of activities during this session. The important points in the session are listed below in the order in which they occur. As each activity takes place check off in the space provided.

_____ Identifying alternative job posssibilities
(Notice the variety of possibilities identified by the members of the group.)

_____ Assessing personal preferences
(In this activity the members of the group assessed their preferences in terms of work activities, conditions, educational requirements and salary.)

N. U. Decision-Making Project

Cue Sheet, Session #2

The session you will be watching today is the second in this series. A number of important points are covered in this session. These topics are listed below in the order in which they are discussed. As each topic is considered by the group, check it off in the space provided.

_____ Choosing job possibilities

(Here the group members pick the alternatives they would like to investigate.)

_____ Explaining the characteristics of "good" questions.

(Good questions are: a) Relevant to one particular job alternative.

b) To gather specific information.

c) Asked of reliable sources.)

_____ Explaining the six information seeking modes

(The modes are: reading, writing, observing, visiting talking, listening.)

_____ Developing "good" questions

(Here the group members work on developing "good" questions.)

Northwestern Decision Making Project

Cue Sheet - Session #3

The video tape you are about to see is the third in this series. Prior to this session, the group members have developed questions about their job alternatives and have tried to find answers to these questions. The most important parts of the session you are about to see are listed below. Check off each activity as it comes up in the session.

_____ Examples of how some modes were used to gather information. (Note the use of reading, writing, and talking.)

_____ Review of the criteria for "good" questions.

(Good questions: 1) Are asked of a reliable source

2) Elicit specific information

3) Are relevant to a particular job)

_____ Group evaluation of the questions and answers presented by the members of the group

Northwestern Decision-Making Project

Cue Sheet -- Session #4

Today you will be watching the fourth video tape in this series. During this session the group members will be discussing the answers they obtained to questions about their job alternatives. The important activities in the session are listed below. Check off each activity as it takes place.

_____ The use of reading, writing, and talking to gather information

_____ Review of the criteria for "good" questions. (Good questions are: (1) specific, (2) relevant to a particular job, and (3) asked of a reliable source.)

_____ Group discussion of the questions and answers developed by the individual members of the group.

Northwestern Decision-Making Project

Cue Sheet -- Session #5

You are about to see the fifth and last video tape in this series. A number of important points are made in this session. These points are listed below. See if you can pick them up as they take place and check them off in the space provided.

_____ Review of the decision-making process: (1) Assess preferences, (2) Identify job alternatives, (3) Develop questions and seek answers to the questions, (4) Evaluate the information and come to tentative decision.

_____ Comparison of information about jobs with personal preferences

_____ Final evaluation and tentative decision

Note the possibilities: (1) I like the job

(2) I don't like it as a possibility

(3) I need more information

_____ Review of the criteria for good questions:

(1)specific, (2) relevant, (3) asked of reliable source

_____ Review of information-seeking modes:

(1) Reading, (2) Writing, (3) Writing, (4) Listening,

(5) Observing, (6) Visiting

APPENDIX C

DEPENDENT VARIABLES

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Northwestern University

NAME _____

Date _____

Attitude Questionnaire

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DIRECTIONS: This questionnaire allows you to express your interest or disinterest with some phrases. Read each phrase carefully and rapidly; then circle the letter that represents your first feeling towards the phrase. (A = That doesn't interest me; B = No strong feelings one way or the other; C = I really am interested in it.)

1. Scheduling to get things done	1.	A	B	C
2. Learning a procedure to use in making decisions	2.	A	B	C
3. Writing for job information	3.	A	B	C
4. Working in a position with a high salary	4.	A	B	C
5. Finding many job opportunities	5.	A	B	C
6. Talking with workers to learn about their jobs	6.	A	B	C
7. Seeking information about different jobs	7.	A	B	C
8. Thinking about what I'm going to do after I get out of school	8.	A	B	C
9. Reading job descriptions	9.	A	B	C
10. Organizing job information	10.	A	B	C
11. Comparing and contrasting job information	11.	A	B	C
12. Listening to tapes describing jobs	12.	A	B	C
13. Exploring different job alternatives	13.	A	B	C
14. Choosing the same job my friends select	14.	A	B	C
15. Observing workers on the job	15.	A	B	C
16. Working in a position I can really get involved	16.	A	B	C
17. Selecting a job my parents recommend	17.	A	B	C
18. Figuring out questions to ask about specific jobs	18.	A	B	C
19. Figuring out what kinds of work I would like to do	19.	A	B	C
20. Thinking about different job possibilities	20.	A	B	C
21. Finding one job opportunity	21.	A	B	C

Name _____

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Career Planning Inventory

This inventory asks you about things that you have done during the last three weeks. Read each question. Think carefully about your answers. Each of your answers will help us learn about high school students.

Section A

Activities regarding your goals in the last semester

	Yes	No
1. Have you thought about some occupations that you might eventually want to enter?	___	___
If you answered "Yes," how many occupations did you think about? Write the number in the block.	☐	
2. Have you thought about some educational programs that you might want to get into, in order to prepare for future occupations?	___	___
If you answered "Yes," how many programs did you think about? Write the number in the block.	☐	

Section B

Have you talked with any of the following people in the last semester

	Yes	No
1. Persons <u>now</u> working at the types of occupations you are thinking about?	___	___
If you answered "Yes," with how many persons did you talk? Write the number in the block.	☐	
2. Persons who <u>have</u> worked at the types of occupations you are considering?	___	___
If you answered "Yes," with how many persons did you talk. Write the number in the block.	☐	

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	Yes	No
3. Persons who are attending or who have attended the school you are interested in attending in order to get the training and education you need for the types of occupations you are thinking about?	___	___
If you answered "Yes," with how many persons did you talk? Write the number in the block.	☐	
4.. If you have not listed them already, have you talked with counselors, teachers, or other school persons about the types of educational programs you are thinking about?	___	___
If you answered "Yes," with how many persons did you talk? Write the number in the block.	☐	
5.. If you have not listed them already, have you talked with parents, other relatives, close friends, or neighbors about the types of educational programs you are considering?	___	___
If you answered "Yes," with how many persons did you talk? Write the number in the block.	☐	
6. Are there <u>any other</u> persons to whom you have talked during this time about the types of educational programs you are thinking about?	___	___
If you answered "Yes," with how many persons did you talk? Write the number in the block.	☐	

Section C

<u>Have you done any of the following in the last semester?</u>

1. Have you written any place for information (pamphlets, bulletins, or catalogs) on occupations, or on schools where you could get training and education in an occupation?	___	___
If you answered "Yes," how many letters did you write?	☐	
2. Have you looked at or read any books, magazines, bulletin board posters or pamphlets about the educational opportunities you are thinking about?	___	___
If you answered "Yes," how many different things did you look at or read?	☐	

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	Yes	No
3. Have you watched or seen any TV programs, exhibits, or movies; or heard any radio programs about the occupations, or the schools that interest you?	___	___
If you answered "Yes," how many things did you listen to or see?	☐	

Section D

Have you visited any of the following places in the last semester?

1. Have you made any visits to jobs to see what types occupations you are considering are like?	___	___
If you answered "Yes," how many places did you visit?	☐	
2. Have you visited any of the schools where you could get training and education for the occupations that you are thinking about?	___	___
If you answered "Yes," how many educational places did you visit?	☐	

Section E

Other Information about last semester

1. Have you looked into getting a summer or part-time job that is connected with the occupations that you are thinking about?	___	___
If you answered "Yes," how many jobs have you looked into?	☐	
2. Have you looked into getting a summer or part-time job to make money for future training or educational expenses?	___	___
If you answered "Yes," how many jobs have you looked into?	☐	
3. Have you had a change in your educational plans that led you to consider changing your course of study in high school?	___	___
If you answered "Yes," how many times did this occur?	☐	

NORTHWESTERN UNIVERSITY

Name (please print)

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Vocational Planning Questionnaire

Directions: Please read each statement and question carefully. Then write down what you would do in each situation.

Suppose you have become interested in the job of an electronic technician as a career possibility for yourself.

Question #1: If you were going to consider the job of an electronic technician as a career possibility, you would probably want to gather some information about the job. In the space below list some (no more than 4) questions about the job of electronic technician, the answers to which you think you should know. For example, "Does an electronic technician use math in his work?"

1.

2.

3.

4.

Question #2: List four different activities you might use in seeking answers to these and other questions about jobs. For example, "talk to a school science teacher."

1.

2.

3.

4.

Question #3: Given the questions you listed in #1, what specific kinds of personal information would you need to have to find out how suitable the job is for you? For example, "how good my grades are in high school math." List four kinds of information.

1.

2.

3.

4.

Question #4: In the attached pamphlet, "Information on the Job of Electronic Technician", you will find the answers to many of your questions. Read the pamphlet and write in the answers to your questions in the answer space below. Find the answers to as many questions as you can by skimming over the pamphlet.

Answers

1.

2.

3.

4.

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Question #5: Using the information about yourself that you listed for Question #3 and the information you gathered for Question #4, list below the good points and the faults of this job for you.

Strengths of the job for me	Weaknesses of the job for me
	(Example) 1. I am weak in math, but in this job I would need to use math.

Question #6: Looking at the strengths and weaknesses of the job for you, how promising overall is the job for you?

INFORMATION ON THE JOB OF AN ELECTRONIC TECHNICIAN

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THE JOB

ctronic Technician

The Electronic Technician aids the electronic engineer. In his he applies electronic theory, principles of electrical circuits, ctrical testing procedures and related subjects to layout, build, t, troubleshoot, repair and modify various electronic equipment.

REQUIREMENTS AND QUALIFICATIONS

Personal Traits, Aptitudes and Physical Traits That You Should Have:

Patient
Flexible
Persistent
A liking for close work
Good vision
Color perception
Manual and finger dexterity
Eye-hand coordination
Ability to lift light to moderately heavy items

You Must Be Able to:

Stoop, reach, climb, and crawl
Use your eyes for close work for long periods of time
Sit at bench, work for long periods
Stand noise and crowded working quarters
Tolerate minor cuts, bruises, soldering iron and acid burns

You Should Know That:

Job hazards are not great, although shocks from high voltages may occur if proper precautions are not observed.
You may work in laboratory-like conditions.
Most of the work is performed indoors.
Turning, lifting, or reaching are frequently required when handling tools and electronic assemblies, inspecting circuits, and connecting measuring devices.

PREPARATION AND TRAINING NEEDED

Recommended High School Courses:

Algebra, Geometry, Physics, Electronics and General Electricity

General Information:

Is expected to be a high school graduate.

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Will find technical training at the junior college level increases opportunities.
Most plants have on-the-job training in connection with apprenticeship programs.

Additional Facts About Training:

Electronics training and knowledge of general electricity is essential. The work calls for numerical and spatial aptitudes, form perception, and motor coordination (which can be explained by your counselor).
Electronics experience in military service is accepted as qualifying by most employers if it has been in the field of research, maintenance, or repair.

Special Entry Requirements:

All applicants must pass a physical examination.
Most employers require United States Citizenship and the passing of a security check.
The entrant may expect to spend from three to five years in specialized training before he is considered a qualified technician.
Minimum age at hire is 18 and the maximum age for the inexperienced and untrained worker is around 35.

PROSPECTS AND OPPORTUNITIES

Job Opportunities and Distribution:

Electronic Technicians are among the fastest growing occupational groups in the country. The long-range outlook for Electronic Technicians is excellent because of anticipated growth in production of new and more complex systems.

Opportunities for Advancement:

The Electronics Technician with experience and additional training may be promoted to: Laboratory or research technician, Assistant to the test engineer, Estimator, Junior engineer, or Inspector.

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MORE ABOUT THE JOB

Salary Information:

The Area	Hours Weekly	Weekly/Monthly Earnings Range	Usual Salary Starting
Chicago	35 - 40	$440 - $700	$440

PEOPLE TO SEE

There are Electronic Technicians in Cook County who are willing to answer your questions on this occupation. Arrangements for a personal contact can be made through your counselor.

Additional information and help can also be obtained from your local office of the Illinois State Department of Employment.

NAME _____
(Please Print)

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Vocational Information Survey: Part I

Directions: Select the one best answer to each question and print the letter for that answer in the blank next to the question. Try not to spend too much time in one question.

____ 1. Which of the following should come first in selecting a job?
a. seeking information about jobs in general
b. seeking information about a particular job
c. exploring jobs by part-time work
d. generating alternative job possibilities
e. planning career decisions

____ 2. Which of the following is important to consider when thinking about a job possibility?
a. whether you can meet the job's entrance requirements
b. whether the job will be in demand in the future
c. whether you will like that kind of work
d. whether the job pays enough
e. all of the above

____ 3. Which of the following is the best source of information about the job of an electronic technician?
a. a textbook on electronics
b. a description of an electronic technician's job from the Occupational Outlook Handbook
c. a pamphlet about the electronics industry
d. a film about the principles of electronics
e. a friend

____ 4. Which of the following is the best way to use information that you have found about a job?
a. to estimate your probable satisfaction with the job
b. to estimate your potential earnings in the job
c. to help you understand your own preferences in work
d. to eliminate jobs in which you have no further interest
e. all of the above depending on the information

____ 5. Which of the following pieces of information about a person would be of least help in selecting a job that suits him?
a. his father is an accountant
b. he likes outdoor work
c. his eyesight is too poor for close work
d. he wants to be a forest ranger
e. he enjoys working with people

____ 6. John does not want to travel in his work. Investigating a job that seemed interesting he discovered that the job "usually involves traveling at least some of the time." He should:
a. rule out the job
b. look for a job that does not require traveling
c. ignore the information since it only says "usually involves traveling"
d. seek more information about kinds and amounts of travel required
e. none of the above

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___ 7. After collecting information about a job but before making a tentative decision you should:
   a. consider your chances of meeting the job's entrance requirements
   b. find the U.S. Goverment's prediction for the future of that job
   c. talk to a person who worked at that job
   d. read about the industries that employ such workers
   e. figure out the pay in hourly units

___ 8. Comparing information about jobs with your likes and dislikes about work helps you to:
   a. understand the job market
   b. guess at the future possibilities of the various jobs
   c. ask more specific questions about jobs
   d. find out which of your interests will need to be changed
   e. estimate your chances of liking the work in the various job possibilities

___ 9. When you have collected all the information you were seeking about a job, you should then:
   a. drop that job and consider another
   b. make a Yes or No decision about the job
   c. consider the advantages and disadvantages of the job for an average person in the near future
   d. consider the advantages and disadvantages for the job in terms of your preferences
   e. seek still more information about related jobs

___10. In a job booklet published by an electric company John reads that jobs in the electric power industry should expand by 30% in the next 10 years. John has just read in a newspaper article, however, that the electric power industries need fewer workers because of automation. Which of the following would be the most appropriate for John to do?
   a. believe the newspaper article because it represents objective reporting
   b. believe the booklet because the companies are the ones who really know about jobs in their industry
   c. check other sources in the library
   d. ask someone who works in the electric power industry
   e. read about automation and its effect on jobs

___11. Which of the following statements would be out of place as possible results of your career planning program?
   a. I will apply for this job
   b. I will no longer consider this job as a possibility
   c. I think this job is my favorite
   d. I will seek more information about this job
   e. before I make a decision about this job I must know my chances of success in it.

NAME _____
(Please Print)

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Vocational Information Survey: Part II

Directions: In the following items a written response is required. Read each question carefully and try to answer.

1. Write the steps of a decision making process.

   a. _____ _____ _____

   b. _____ _____, _____

   c. _____ _____

2. What are the criterion for good questions?

   a. Good questions are _____ .

   b. Good questions are _____.

   c. Good questions are directed toward _____ sources.

3. Name the six modes or ways for seeking information.

   a. _____ d. _____

   b. _____ e. _____

   c. _____ f. _____

4. Write two short examples of how each mode might be used.

   A. a.
      b.

   B. a.
      b.

   C. a.
      b.

   D. a.
      b.

   E. a.
      b.

   F. a.
      b.

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5. For each pair of modes explain why you might use one and not the other.

   A.

   B.

   C.

6. In two short statements explain why it is important to assess one's own interests and skills when choosing a job.

   A.

   B.

REFERENCES

Asch, S. E. The doctrine of suggestion, prestige, and imitation in social psychology. Psych Review, 1948, 55, 250-277.

Baker, R. D. Orienting stimuli in vocational problem-solving as factors in promoting career information-seeking. Unpublished Ph.D. dissertation, Stanford Univ., 1967.

Bandura, A. Behavioral modification through modeling procedures. In L. Krasner & L. Ullman (Eds.), Research in Behavior Modification. New York: Holt, Rinehart & Winston, Inc., 1965, pp. 310-340. (a)

Bandura, A. Influence of models' reinforcement contingencies on the acquisition of imitative responses. J. pers. soc. Psychol., 1965, 1 (6), 589-595. (b)

Bandura, A. & Huston, A. Identification as a process of incidental learning. J. abnorm. soc. Psychol., 1961, 63, 311-318.

Bandura, A. & Walters, R. Social learning and personality development. New York: Holt, Rinehart & Winston, Inc., 1963.

Bandura, A., Blanchard, E. B., & Ritter, B. J. The relative efficacy of desensitization and modeling treatment approaches for inducing affective, behavioral, and attitudinal changes. (In preparation, 1968)

Bandura, A., Ross, D. & Ross, S. A comparative test of the status envy, social power, and secondary reinforcement theories of identificatory learning. J. abnorm. soc. Psychol., 1963, 67, 527-534.

Bandura, A., Ross, D. & Ross, S. Transmission of aggression through imitation of aggressive models. J. abnorm. soc. Psychol., 1961, 63 575-582.

Burnstein, E., Stotland, E., & Zander, A. Similarity to a model and self-evaluation. J. abnorm. soc. Psychol., 1961, 62, 257-264.

Carkhuff, R., Alexik, M. & Anderson, S. Do we have a theory of vocational choice? Pers. Guid. J., 1967, 46, 335-345.

Clark, R., Gelatt, H. B. & Levine,LL. A decision-making paradign for local guidance research. Pers. Guid. J., 1965, 44, 40-51.

Coleman, J. S. The adolescent society. New York: The Free Press, 1961.

Cooley, W. W. A computer-measurement system for guidance. Harv. Educ. Review, 1964, 34, 559-572.

Cronbach, L. J. & Gleser, G. C. Psychological tests and personnel decisions. Urbana, Illinois: Univ. of Illinois Press, 1965 (2d Ed.).

Dilley, J.S. Decision-making ability and vocational maturity. Pers. Guid. J., 1965, 44, 423-442.

Edwards, W. Behavioral decision theory. Annu. Rev. Psychol., 1961, 12, 473-499.

Eysenck, H.J. Behavior therapy and the neuroses. Oxford: Pergamon Press, 1960.

Eysenck, H.J. Biological basis of personality. Springfield, Illinois: Harper & Row, 1967.

Eysenck, H.J. Conditioning, introversion-extroversion, and the strength of the nervous system. Proceedings Eighteenth International Congress of Experimental Psychology. Ninth Symposium, 1966, 33-44.

Eysenck, H.J. Experiments in motivation. London: Pergamon Press, 1964.

Eysenck, H.J. Maudsley Personality Inventory. San Diego, Calif: Educational and Industrial Testing Service, 1962.

Flanagan, J.C., Dailey, J.T., Shaycroft, M.F., Gorham, W.A., Orr, D.B. & Goldberg, I. Design for a study of American youth. Boston: Houghton Mifflin, 1962.

Flanagan, J.C., Davis, F.B., Dailey, J.T., Shaycroft, M.F., Orr, D.B., Goldberg, I., & Neyman, C.A., Jr. Project TALENT: The American high school student. Final report. University of Pittsburgh, Cooperative Research Project No. 635, U.S. Office of Education, 1964.

Gelatt, H.B. Decision-making: a conceptual frame of reference for counseling. J. Counsel. Psychol., 1962, 9, 240-245.

Ginzberg, E., Ginsburg, S.W., Axelrad, S. & Herma, J.L. Occupational Choice: an approach to a general theory. New York: Columbia University, 1951.

Gordon, C.W. The social system of the high school. Glencoe, Illinois: The Free Press, 1957.

Hamilton, J.A. Video group social models, group stimulus materials, and client characteristics in vocational counseling: An experimental study. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, February, 1969.

Havighurst, R.J. & Neugarten, B.L. Society and education. Boston: Allyn and Bacon, Inc., 1962.

Hilgard, E.R. & Bower, G. Theories of learning. New York: Appleton-Century-Crofts, 1967 (3rd Ed.).

Holland, J.L. Major programs of research on vocational behavior. In H. Borow (Ed.), Man in a world at work. Boston: Houghton Mifflin Co., 1964, 259-284.

Holland, J.L. The psychology of vocational choice. Waltham, Mass.: Blaisdell, 1966.

Johnson, R.G. Difficulty level of simulated vocational problems in encouraging career information-seeking. Unpublished Ph.D. dissertation, Stanford Univ., 1967.

Jones, G.B. Stimulating vocational exploratory behavior through film-mediated problems programed for student response. Unpublished Ph.D. dissertation, Stanford Univ., 1966.

Kagan, J. The concept of identification. Psych Review, 1958, 65, 296-305.

Kagan, J. On the need for relativism. Amer. Psychologist, 1967, 22, 131-142.

Kanfer, F.H. & Duerfeldt, P.H. Learner competence, model competence, and number of observation trials in vicarious learning. J. educ. Psychol., 1967, 58, 153-157.

Katz, M. Decisions and values: a rationale for secondary school guidance. New York: College Entrance Examination Board, 1963.

Kimble, G.A. Hilgard and Marquis' "Conditioning and Learning." New York: Appleton-Century-Crofts, 1961.

Krumboltz, J.D. Promoting adaptive behavior: new answers to familiar questions. In J.D. Krumboltz (Ed.), Revolution in counseling: implications of behavioral science. Boston: Houghton Mifflin, 1966, 3-26.

Krumboltz, J.D. & Bergland, B. Vocational simulation experiences: optimum grade level for presenting career information. Unpublished mimeo, Stanford Univ., 1968.

Krumboltz, J.D. & Hamilton, J. Vocational simulation experiences: how realistic should work samples be? Unpublished mimeo, Stanford Univ., 1968.

Krumboltz, J.D. & Nelson, D.E. Vocational simulation experiences: alternative ways of stimulating interest in career exploration. Unpublished mimeo, Stanford Univ., 1968.

Krumboltz, J.D. & Schroeder, W.W. Promoting career planning through reinforcement. Pers. Guid. J., 1965, 44, 19-26.

Krumboltz, J.D. & Sheppard, L.E. The effect of a vocational problem-solving experience on career exploration and interest. Unpublished mimeo, Stanford Univ., 1966.

Krumboltz, J.D. & Thoresen, C.E. The effect of behavioral counseling in group and individual settings on information-seeking behaviors. J. counsel. Psychol., 1964, 11, 324-333.

Krumboltz, J.D., Varenhorst, B.B. & Thoresen, C.E. Non-verbal factors in the effectiveness of models in counseling. J. counsel. Psychol., 1967, 14 (5), 412-418.

Krumboltz, J.D., Southern, M. Vocational simulation experiences: preparing students for career information. Unpublished mimeo, Stanford Univ., 1968.

Lefkowitz, M., Blake, R.R. & Mouton, J.S. Status factors in pedestrian violation of traffic signals. J. abnorm. Psychol., 1955, 51, 704-705.

Long, R.A. Specific background similarity of model and subject as a factor in model-reinforcement counseling. Unpublished Ph.D. dissertation, Stanford Univ., 1968.

Maccoby, E.E. Role-taking in childhood and its consequences for social learning. Child Development, 1959, 30, 239-252.

Magoon, T. An effective problem-solving model for education-vocational planning. Paper presented at annual meeting, American Educational Research Association, Chicago, February, 1968.

Mausner, B. & Block, B.L. A study of the additivity of variables affecting social interaction. J. abnorm. Psychol., 1957, 54, 250-256.

Mehrens, W.A. Factors influencing educators' decisions on college attendance: a study of a theoretical model. Am. Educ. Res. J., 1966, 3, 263-271.

Miller, N.E., & Dollard, J. Social learning and imitation. New Haven: Yale Univ. Press, 1941.

Mischel, W. Personality and assessment. New York: John Wiley & Sons, Inc., 1968.

Mischel, W. & Grusec, J. Determinants of the rehearsal and transmission of neutral and aversive behaviors. J. pers. soc. Psychol., 1966, 3, 197-205.

Mussen, B.H. & Distler, L. Masculinity identification and father-son relationships. J. abnorm. soc. Psychol., 1959, 59, 350-356.

Orme, M.E.J., McDonald, F. & Allen, D.W. The effects of modeling and feedback variables on the acquisition of a complex teaching strategy. Paper presented at the American Educational Research Association Convention, Chicago, February, 1966.

Parsons, F. Choosing a vocation. Boston: Houghton Mifflin Co., 1909

Premack, D. Reinforcement theory. In D. Levine (Ed.), Nebraska symposium on motivation. Lincoln: Univ. of Nebraska Press, 1965.

Roe, A. Personality structure and occupational behavior. In H. Borow (Ed.), Man in a world at work. Boston: Houghton Mifflin, 1964, pp. 196-214.

Roe, A. The psychology of occupations. New York: John Wiley & Sons, Inc., 1956.

Rosekrans, M.A. Imitation in children as a function of perceived similarity to a social model and vicarious reinforcement. J. pers. soc. Psychol., 1967, 7, 307-315.

Super, D. A theory of vocational development. In G.F. Farwell & H.J. Peters (Eds.), Guidance readings for counselors. Chicago: Rand McNally & Co., 1960, pp. 271-284.

Super, D., Crites, J.O., Hummel, R.C., Moser, H.P., Overstreet, P.L. & Warnath, C.F. Vocational development: a framework for research. Career Pattern Study Monograph I, Bureau of Publications, Columbia University, 1957.

Super, D., Starishevsky, R., Matlin, N., & Jordaan, J.P. Career development: self-concept theory. New York: College Entrance Examination Board, 1963.

Thoresen, C.E. Behavioral counseling: the really client-centered approach. Paper presented at the Long Island Personnel and Guidance Association meeting, Farmingdale, New York, Nov. 10, 1966. (a)

Thoresen, C.E. Using appropriate models. Amer. Psychologist, 1966, 21, 688 (abstract). (b)

Thoresen, C.E. & Hamilton, J.A. Encouraging adolescent career behaviors with peer modeling and structured interaction in counseling groups. Unpublished manuscript, School of Education, Stanford University, 1969.

Thoresen, C.E. & Krumboltz, J.D. Similarity of social models and clients in behavioral counseling: two experimental studies. J. counsel. Psychol., in press.

Thoresen, C.E. & Mehrens, W.A. Decision theory and vocational counseling: important concepts and questions. Pers. Guid. J., 1967, 46, 165-172.

Thoresen, C.E. & Stewart, N.S. Counseling in groups: using group social models. Paper presented at annual meeting, American Educational Research Association, New York, February, 1967.

Thoresen, C.E., Hosford, R.E. & Krumboltz, J.D. Determining effective models for counseling clients of varying competencies. Unpublished manuscript, 1968.

Thoresen, C.E., Krumboltz, J.D. & Varenhorst, B.B. Sex of counselors and models: effect on client career exploration. J. counsel. Psychol., 1967, 14 (6), 503-508.

Tiedeman, D.V. Decision and vocational development: a paradigm and its implications. Pers. Guid. J., 1961, 40, 15-20.

Tiedeman, D.V. & O'Hara, R.P. Career development: choice and adjustment. New York: College Entrance Examination Board, 1963.

Weinstein, F. The influence of psychological types on group desensitization. Paper presented at annual meeting, American Educational Research Association, Chicago, February, 1968.

Yabroff, W.W. Two experiments in teaching decision-making. Palo Alto: Palo Alto Unified School District, June 1964 (mimeo).